REMARKS/ARGUMENTS

Support for the amendment to Claim 1 is found in the claim itself, in original Claims 2 and 4, at specification page 6, line 14 and at specification page 14, lines 21-23. The amendment to Claim 4 is supported at specification page 13, lines 19-25. New Claims 15 and 17 are supported at specification page 14, lines 3-9. New Claim 16 is supported by Table 1 at specification page 11. New Claim 18 is supported by the paragraph bridging specification pages 13-14. No new matter has been entered.

The above amendments to the claims describe a preferred embodiment herein where a lubricating oil composition is provided having a particular base oil and 50 to 600 ppm by mass of an acid phosphoric ester or phosphorous ester represented by general formula (II). See amended Claim 1. In addition, the cohesive energy density (CED) of the compounds of the base oil have been limited to 0.200 GPa or more, and the manner in which the CED is calculated has been specified in the claim. In view of these amendments Applicants respectfully submit that the rejection over Tipton in view of Watts, optionally in view of Conary, has been overcome.

As the Examiner will note, the claims have been narrowed such that the evidence of record herein fully supports the conclusion that the entire scope of lubricating oil compositions described in the pending claims provides superior results over anything suggested by even a combination of the references. Of course, Applicant is not required to compare the invention to a hypothetical combination of prior art elements, as doing so would be tantamount to comparing the invention with the invention if a *prima facie* case has been made:

> Although evidence of unexpected results must compare the claimed invention with the closest prior art, applicant is not required to compare the claimed invention with subject matter that does not exist in the prior art. *In re Geiger*, 815 F.2d 686, 689, 2 USPQ2d 1276, 1279 (Fed. Cir. 1987) (Newman, J., concurring) (Evidence rebutted *prima facie* case by comparing claimed invention with the most relevant prior art. Note that the majority held the Office failed to establish a *prima facie* case

> of obviousness.); *In re Chapman*, 357 F.2d 418, 148 USPQ 711 (CCPA 1966) (**Requiring applicant to compare claimed invention with polymer suggested by the combination of references relied upon in the rejection of the claimed invention under 35 U.S.C. 103 "would be requiring comparison of the results of the invention with the results of the invention."** 357 F.2d at 422, 148 USPQ at 714.).

See MPEP 716.02(e) (emphasis in bold supplied).

Tipton, the primary reference cited against the claims, mentions hydrogenated products of dimers, trimers, or tetramers of norbornanes and/or norbornenes as potential components of base fluids at column 3, lines 20-21. However, Tipton nowhere actually uses these materials in any of the examples of the reference, and further nowhere identifies the cohesive energy density (CED) thereof as being a result effective variable, nor discusses any benefit in having a CED of 0.200 GPa or more, as claimed.

As set forth at specification page 6, lines 11-20, Applicants have discovered that CED is a result-effective variable:

> The base oil used as the component (A) in the present invention is made of a hydrocarbon compound having a cohesive energy density (hereinafter occasionally referred to merely as "CED") at 40°C of 0.180 GPa or more and preferably 0.200 GPa or more. When the CED at 40 °C is 0.180 GPa or more, the base oil itself can exhibit a high traction coefficient, and further a composition obtained by blending the base oil with the component (B), etc., can exhibit a high metal-to-metal friction coefficient and at the same time, the effect of enhancing a wear resistance, so that the continuously variable transmission can be enhanced in power transmission capacity as well as persistency of the enhanced power transmission capacity.

This discovery is further described in Table 4-1 at specification page 27 where Base Oil 1 having a CED of 0.234 is shown to be superior to, e.g., naphthenic mineral oil as used by Tipton having a CED of 0.178 (see, e.g., col. 17, 3 lines from the bottom of the page in the Table and col. 21, line 7 in the Table) and poly a-olefin oil having a CED of 0.101 (compare with Tipton's hydrogenated polybutene at col. 17, 4 lines from the bottom of the page). See specification page 25. While it has been held that the discovery of an optimum value of a

result effective variable is ordinarily within the skill of the art, such is the case *only* when the variable is know to be result-effective:

> A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) (The claimed wastewater treatment device had a tank volume to contractor area of 0.12 gal./sq. ft. The prior art did not recognize that treatment capacity is a function of the tank volume to contractor ratio, and therefore the parameter optimized was not recognized in the art to be a result- effective variable.). See also *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (prior art suggested proportional balancing to achieve desired results in the formation of an alloy).

See MPEP 2144.05. Here, CED is *not* a known result-effective variable and Applicants' discovery thereof, and the exemplified support therefore in the specification in the form of both description and example, supports patentability herein. This is especially true in view of the fact that Applicant has also shown that their particularly claimed combination of base oil and acid phosphoric ester or phosphorous ester outperforms overbased calcium sulfonate, a material used by Tipton in several instances (see, e.g., col. 18, line 28, col. 19, line 61, and col. 21, line 17 of Tipton). See Additive 3 at specification page 25 and note Example 4 and Comparative Examples 7-9 herein at specification page 28.

As Applicants have provided a description fully supportive of the benefits of the present invention as claimed herein and have distinguished the claimed subject matter from both anything suggested by the combination of Tipton in view of Watts, optionally in view of Conary, and anything actually exemplified therein arguably close to the pending claims (Watts' description of base oils includes only, and at best, the *comparative* base oils used herein - compare Table 2-1 at specification page 25 with Watts' description of base oils at col. 4, line 6 - col. 5, line 21) the weight of evidence herein supports a conclusion of patentability. Accordingly, and in view of the above amendments further limiting the particular components of Applicants' presently claimed base oil (A) and acid phosphoric

ester or phosphorous ester (B) and the explanation and data provided in the original specification under Declaration Applicants respectfully request the reconsideration and withdrawal of the outstanding rejections, and the passage of the is case to Issue.

Respectfully submitted,

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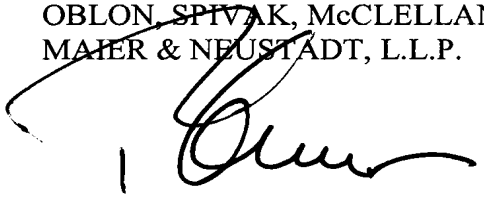

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